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10/048,155	05/15/2002	Arild Follestad	613-55	1492

7590

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EXAMINER

LU, C CAIXIA

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 06/27/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/048,155

Applicant(s)

FOLLESTAD ET AL.

Examiner

Caixia Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 11-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-17 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 :
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-12, drawn to a polymerization process.

Group II, claim(s) 13-17, drawn to a polymer blend.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: common technical feature, the polymer blend, of Groups I and II, comprise the similar polymer blend as that of the prior art, e.g. Yang et al. (US 5,539,056). As the recited polymer blend does not make a contribution over the prior art, i.e. the special technical feature(s) is anticipated by or obvious in view of the prior art, unity of invention is lacking and restriction is appropriate.

3. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- (i) Single-reactor process

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(ii) Multiple-reactor process

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

4. The claims are deemed to correspond to the species listed above in the following manner:

(i) Claims 1-10

(ii) Claims 11-12

The following claim(s) are generic: Claim 1.

5. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Pursuant to PCT Rule 13.2 and PCT Administrative Instructions, Annex B, Part 1(f)(I)(B)(2), the species are not art recognized equivalents Pursuant to PCT Rule 13.2 and PCT Administrative Instructions, Annex B, Part 1(f)(I)(B)(2), the species are not art recognized equivalents.

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6. During a telephone conversation with Attorney Arthur Crawford on May 30, 2003 a provisional election was made with traverse to prosecute the invention of Group I wherein the single-reactor process species is elected, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Specification***

8. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

9. The heading of "Brief Description of the Drawing(s)" for the figures is missing.

10. The disclosure is objected to because of the following informalities:

(i) Page 7, line 33, the "chain branching frequency of 1000/3" does not make sense.

Should it be "1/3" instead to mean one branch out of three carbons?

(ii) Page 31, line 30, the term "polypropylene" should be --propylene--.

Appropriate correction is required.

***Claim Objections***

11. Claims 1-10 are objected to because of the following informalities:

(i) The use of terms "effecting" and "effected" in Claims 1 and 9 respectively are somewhat awkward, the examiner suggests replacing "effecting" and "effected" with --conducting-- and --conducted-- respectively. Appropriate correction is required.

(ii) In Claim 4, lines 3 and 8 respectively, the limitation of the selected group of the first and second metallocenes are indefinite in that it is not clear whether the individual members in the group are selected in alternatives only or in both alternatives and combinations. The examiner suggests replacing the term "and" in line 13 with --or-- if alternative is intended.

***Claim Rejections - 35 USC § 102/103***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al. (US 5,539,056).

The instant claims are direct to a process for preparation of olefin polymer blend in the presence of at least two metallocene catalyst in a single reactor to provide a polymer blend comprising at least a higher molecular weight fraction and a lower molecular weight fraction, wherein, the polymer chain defect content of said higher molecular weight fraction is at least 3 times that of said lower molecular weight fraction.

Yang teaches a polypropylene blend comprising an amorphous fraction with higher Mw and a crystalline fraction having a lower Mw, and such a polymer blend are demonstrated in working examples, Examples 2-4 (col. 2, lines 33-48; col. 16, lines 36-38; and Example B). Yang's teaching encompasses the instant claims.

15. Claims 1-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Follestad et al. (WO 98/57998).

Follestad teaches an olefin polymerization process using two or more metallocene catalyst to provide polyolefins with multimodal molecular weight distribution (page 4, 1<sup>st</sup> paragraph and page 16, the 3<sup>rd</sup> paragraph). In Example 1 and Runs of 1-12 of Example 3, Follestad demonstrated ethylene polymerization or ethylene/hexene copolymerization in the presence of catalyst systems which read on those of the instant claims.

Although the prior art examples do not disclose all the claimed limitations such as the polymer chain defect content of the higher molecular weight fraction is at least 3 times that of the lower molecular weight fraction, the polymers disclosed in the prior art are made by processes using catalyst compositions which are identical or substantially identical to those disclosed in the instant specification. Under these circumstances, one

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of the ordinary skilled in the art would have expected that the claimed limitations would be inherent in the prior art polymers.

Once a product appearing to be substantially identical is found and a 35 USC 102/103 rejection made, the burden of proof is shifted to the applicant to show an unobvious difference. In re Fitzgerald, 205 USPQ 594. In re Fessmann, 180 USPQ 324. Applicants have not met their burden to demonstrate an unobvious difference between the claimed product and the products of the prior art examples.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (703) 306-3434. The examiner can normally be reached on 9:00 a.m. to 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1193.

  
Caixia Lu, Ph. D.  
Primary Examiner  
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CL  
June 24, 2003